

ETSI TS 187 003 V2.3.2 (2011-03)

Technical Specification

Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Security; Security Architecture

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Reference

RTS/TISPAN-07041-NGN-R2

Keywords

architecture, security**ETSI**

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN).

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1 Scope

The present document defines the security architecture of NGN. The definition complies with the requirements of ITU-T Recommendation I.130 [29] at stage 2.

The present document addresses the security architecture required to fulfil the NGN security requirements defined in TS 187 001 [1] and includes the definition of security architectures to provide protection for each of the NGN functional architecture (ES 282 001 [2]) and its subsystems (ES 282 004 [5], ES 282 001 [2], ES 282 007 [24], ES 283 003 [23] and ES 282 003 [4]). Where appropriate the present document endorses security mechanisms defined in other specifications.

The present document addresses the security issues of the NGN core network and the NGN access network(s) up to and including the NGN Network Termination (NGN NT) in the residential customer domain. The NGN NT denotes a logical demarcation point between the residential customer domain and the NGN core and access networks and covers the corresponding interfaces.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

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2.1 Normative references

The following referenced documents are necessary for the application of the present document.

- [1] ETSI TS 187 001: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN SECurity (SEC); Requirements".
- [2] ETSI ES 282 001: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Functional Architecture".
- [3] ETSI ES 282 002: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN Emulation Sub-system (PES); Functional architecture".
- [4] ETSI ES 282 003: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Resource and Admission Control Sub-System (RACS): Functional Architecture".
- [5] ETSI ES 282 004: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Functional Architecture; Network Attachment Sub-System (NASS)".
- [6] ETSI TS 183 033: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IP Multimedia; Diameter based protocol for the interfaces between the Call Session Control Function and the User Profile Server Function/Subscription Locator Function; Signalling flows and protocol details [3GPP TS 29.228 V6.8.0 and 3GPP TS 29.229 V6.6.0, modified]".
- [7] ETSI TS 133 203: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; 3G security; Access security for IP-based services (3GPP TS 33.203)".

- [8] ETSI TS 133 210: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; 3G security; Network Domain Security (NDS); IP network layer security (3GPP TS 33.210)".
- [9] ETSI TS 133 141: "Universal Mobile Telecommunications System (UMTS); LTE; Presence service; Security (3GPP TS 33.141)".
- [10] ETSI TS 133 222: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Generic Authentication Architecture (GAA); Access to network application functions using Hypertext Transfer Protocol over Transport Layer Security (HTTPS) (3GPP TS 33.222)".
- [11] ETSI TS 133 220: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Generic Authentication Architecture (GAA); Generic Bootstrapping Architecture (GBA) (3GPP TS 33.220)".
- [12] Void.
- [13] Void.
- [14] Void.
- [15] Void.
- [16] Void.
- [17] ETSI TS 129 329: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Sh interface based on the Diameter protocol; Protocol details (3GPP TS 29.329)".
- [18] ETSI ES 283 002: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Release 1 H.248 Profile for controlling Access and Residential Gateways".
- [19] ETSI ES 283 018: "Telecommunications and Internet Converged Services and Protocols for Advanced Networking (TISPAN); Resource and Admission Control: H.248 Profile for controlling Border Gateway Functions (BGF) in the Resource and Admission Control Subsystem (RACS); Protocol specification".
- [20] ETSI TS 183 019: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Network Attachment; User-Network Interface Protocol Definitions".
- [21] ETSI ES 283 035: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Network Attachment Sub-System (NASS); e2 interface based on the DIAMETER protocol".
- [22] ETSI ES 283 034: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Network Attachment Sub-System (NASS); e4 interface based on the DIAMETER protocol".
- [23] ETSI ES 283 003: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IP Multimedia Call Control Protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP) Stage 3".
- [24] ETSI ES 282 007: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IP Multimedia Subsystem (IMS); Functional architecture".
- [25] ETSI TS 182 006: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); IP Multimedia Subsystem (IMS); Stage 2 description (3GPP TS 23.228 v7.2.0, modified)".
- [26] IETF RFC 3261: "SIP: Session Initiation Protocol".
- [27] ISO/IEC 10181-1 (1996): "Information technology - Open Systems Interconnection - Security frameworks for open systems: Overview".